



SEQUENCE LISTING

<110> TSUCHIYA, Masayuki
IIJIMA, Shigeyuki
SUGO, Izumi
SEKIMORI, Yasuo
UENO, Kenju
HABU, Kiyoshi

<120> FUCOSE TRANSPORTER

<130> 1254-0300PUS1

<140> US 10/561,191

<141> 2005-12-16

<150> JP 2003/174006

<151> 2003-06-18

<150> JP 2003/174010

<151> 2003-06-18

<150> JP 2003/282081

<151> 2003-07-29

<150> JP 2003/282102

<151> 2003-07-29

<160> 19

<170> PatentIn Ver. 2.1

<210> 1

<211> 10939

<212> DNA

<213> Cricetulus griseus

<400> 1

```
gagctcaatt aaccctcact aaagggagtc gactcgatcc ttacagaaa acttgcaaac 60
cctcttggag tagaaaaagta gtagtatctg acacaagtat cagcaaaatg caaacttctc 120
cccatcccca gaaaaccatt ataaaaaccc ccatatctta tgcccaactg tagtgatata 180
ttatttatga ttatttaaaa cttgcttaag gattcagaaa gcaaagtcag ccttaagcta 240
tagagaccag gcagtcagtg gtggtacaca cctttaatcc caggactcag gattaagaag 300
tagacggacc tctgttagtt caagtctacc attacctaca caagagtgaag gagtaaccga 360
tctcatgcct ttgatccag cagctgggat catgtgcatt caatcccagc attcgggagt 420
tatataagac aggagcaagg tctcagagct ggcattcatt ctccagccac attgaggata 480
ggaaaacatt gaagtgtcag gatgctgagg agaggcagca gtttgaggtt tggtagaacc 540
aggatcacct tttggtctga ggtagagtaa gaactgtggc tggctgcttt gcttttctga 600
tcttcagctt gaagcttgaa ctccaatatt tgtctctggg tctattatta tcatgttaca 660
cctaacttta aagctgattt acgcaagaca gttgtaggtg gacctttctt tcctgcccac 720
cagttcccaa ataactgaca cggagactca atattaatta taaatgattg gttaatagct 780
cagtcttgtt actggctaac tcttacattt taaattaact catttccatc cctttacttg 840
ctgccatgtg gttcatggct tgttcaagtc ctgcttcttc tgtctctggc tggtagtgcc 900
tctggttctg ccctttatcc cagaattctc ctagtctggc tctcctgccc agctataggc 960
cagtcagctg ttatttaacc aatgagaata atacataatt atagtgtaca aagattgctc 1020
ctcaacaccc aattttttat gtgcaacctg agaactctgga ctattgccc tcatgcttgc 1080
agaggcggca cccttaccga ctaagccacc tttctagccc tgttgctttt gttttttgag 1140
```

acaggttcca	ctatgtagcc	caggctggcc	tcaaactgac	cattctcctg	cctaaacctc	1200
ccgaacactg	gaattatagt	caaggcctac	ctgccctggc	atthttcacac	ttttatttcc	1260
tggctgagtc	cattgacttt	acactcatca	aggttgaacc	agttggagtt	taattacagt	1320
gccaatcgca	ctgaatccca	cataatcaaa	caacttcaag	gaagcaaaaa	accagttttt	1380
cctgaagatc	aatgtcagct	tgcctgattc	agaatagacc	cccgaaaaaa	ggcaaatgct	1440
tgataacca	tttcttctta	ttgttcaatc	ccctgctgct	gtgtgtaagc	tcctgagaaa	1500
ggacagtaag	gggacattca	tgatcagaga	aagagcccca	actccccccc	cagccccacc	1560
cccaccctgt	ccacagtctg	ttggttttgt	ttccccctgg	ctgacacca	gaaatcacia	1620
cataatcacc	taggtcactg	taacaagttc	ctttctggaa	aatgctacia	atgatattgg	1680
taacatgagt	aatgaataat	gcctggagtc	caactccctt	gtgaccagc	aatgttttcc	1740
gtgggtgctc	ccttccccag	ctgcaggcct	gacatgtacc	ttaaaaagcc	tcccctggag	1800
gacagaattt	tgtgggtact	atagtgttct	cacaaatact	tcccctaata	cccttactta	1860
gttaccataa	ataacatgca	gcccctgggt	aggcacacag	ggctccaatg	tacagcttct	1920
cagacactgc	aggaaccttc	ctctccta	gcagcactgg	tctcttcagg	ctggacagca	1980
ggaacccata	ccactccaat	cctagtgtgg	agtagagctg	tctacgaaaa	ccagcagatc	2040
tatagctaaa	tgtgtttcaa	ttttatgctt	tgacaaattg	tactgacccc	acccccaccc	2100
cttccccctt	gctgtgctgg	gaattgaacc	caggaccttg	tgcatgccag	gcaagtactc	2160
taacactgag	ctatagcccc	aatctttcat	ccaagtctct	atgtgtgccc	acactcgctt	2220
tttattttga	gacaaaaggt	tcttattttg	agataaggtc	tcactatgtt	gccttgactt	2280
tttttttttt	ttttttttga	acttttgacc	ttcctacctc	agctgagact	acaagtcttt	2340
taccatcagg	cccggctgat	ggtaaaataa	cagtatttga	aatagttaa	acacatcatc	2400
ttaatggcca	accacacaat	ttccgaaatg	ttgctggctc	agtctggggc	aaacctgtcc	2460
gccccaaacat	tgggtgctagg	aagaaagcac	agacaagtag	ccctcccagc	tcaggagtaa	2520
aagacctgga	gggggtggcc	cacttcggtc	aagttcacgg	gatggggagg	ggtacctctc	2580
tccagtagtg	gtggattttg	gcagttcctc	caccgacgcc	ctctggaagc	acctgcttgg	2640
acccgcaaaag	ccaggaatgc	agcttcctca	agggactcgc	cagcgagggt	aacaggacag	2700
aggcgctcca	agagggtgg	ggcggaagg	ggaagacagg	gtcggcctta	gatagggcaa	2760
agggccttct	ggctgtgttc	ccggggaac	cgccccacca	cgcttgagc	ccgacgtggc	2820
gagcgatggg	gacagcgagc	aggaagtctg	actggggagg	gccgcgtagc	agatgcagcc	2880
gagggcgggc	ctgcaggtta	caccgcgggg	gtgagcgcca	gggtccctgaa	2940	
ccagccagcg	ctccagagcc	gagtcggg	gacctcgtga	atgggaagg	3000	
atccgggaca	ccgaattgct	gcattgagg	gctcagaggt	tctgatgtgg	gagtcagaa	3060
agggttttat	ctaccggagg	tgatgtgact	tccggcctct	ggaagtgtct	ttggagtctc	3120
tgggaccttg	ggtcctctcg	actaggtttg	gaaggggtga	aataggggta	gggagaaagg	3180
agaggactgc	agcaatgtct	tcccgaacga	cctgggttcg	ggaggggtcg	aaggacaagg	3240
ggctgttgtg	gggggtcttc	agacgcggag	gggtggtatt	ctattttctg	ggaagatgg	3300
gtcgatgcac	ttgaccaagt	ctagtcgac	tgaagaggct	aggggaacag	acagtgagag	3360
aggatgggtg	agggagtggc	agaacccttc	cagaaactgg	gagaggctct	agcacctgca	3420
accccttccc	tggcctccgg	ggagtcccag	aagagggcag	gacctggac	acagggtgat	3480
tcggtgccggc	gcgctccggc	ctggcgaagg	tgcgcgtct	tggaggccgc	gggagggcca	3540
gacgcgcgcc	cggagagctg	gccctttaag	gctacctgga	ggcgtgtcag	gaaatgcgcc	3600
ctgagcccg	ccctcccggg	acgcggcccg	agacctggca	agctgagacg	gaactcgga	3660
ctagcaactc	gctcgcgcc	tccgtgaggc	cttgccccc	ccatgcctct	gtcattgccc	3720
ctcgggccc	ctccctgaac	ctccgtgacc	gcctgcagt	cctccctccc	ccccttcgac	3780
tccggcgggc	cttccggggc	ctcccgcagc	ccgcccctca	cgtagccac	acctccctct	3840
cggcgctccg	cttcccacgc	ggtccccgac	ctgttctttc	ctcctccacc	ctgcccctct	3900
gtccctctcc	cttcccttct	cccctcgact	cgtccctatt	aggcaacagc	ccctgtggtc	3960
cagccggcca	tggctgtcaa	ggctcacacc	cttagctagg	ccccttctcc	cttccctggg	4020
tcttgtctca	tgacccccct	ccccgcccgg	gagcgagcgc	gatgtggagc	agtgcctctg	4080
gcaagcagaa	cttcacccaa	gccatgtgac	aattgaaggc	tgtaccccca	gaccttaaca	4140
tcttgagacc	ctgtagacca	gggagtgtct	ctggccgtgg	ggtgacctag	ctcttctacc	4200
accatgaaca	gggcccctct	gaagcgggtc	aggatcctgc	gcatggcgct	gactggaggc	4260
tccactgcct	ctgaggaggc	agatgaagac	agcaggaaca	agccgtttct	gctgcggggc	4320
ctgcagatcg	cgctggctgt	ctctctctac	tgggtcacct	ccatctccat	ggtattcctc	4380
aacaagtacc	tgctggacag	cccctccctg	cagctggata	cccctatctt	cgtcactttc	4440
taccaatgcc	tggtgacctc	tctgctgtgc	aagggcctca	gcactctggc	cacctgctgc	4500
cctggcaccg	ttgacttccc	caccctgaac	ctggacctta	aggtggccc	cagcgtgctg	4560

ccactgtcgg	tagtcttcat	tggcatgata	agtttcaata	acctctgcct	caagtacgta	4620
ggggtggcct	tctacaacgt	ggggcgctcg	ctcaccaccg	tgttcaatgt	gcttctgtcc	4680
tacctgtctg	tcaaacagac	cacttccttc	tatgccctgc	tcacatgtgg	catcatcatt	4740
ggtgagtggt	gcccgggggc	tgtgggagca	ggatgggcat	cgaactgaag	ccctaaaggt	4800
caacactgta	ggtaccttta	cttactgtcc	cagggtccctt	gcacagcag	ttacaggaag	4860
agccctgtag	aaaacaaata	acttccttat	ggtcattcaa	caagttagg	acccagccag	4920
ggtgaaaata	atgttagcag	caactacagc	aaagatggct	ctcgccactt	gcacgattaa	4980
aatgtgccag	gtactcagat	ctaagcattg	gatccacatt	aactcaacta	atccctatta	5040
caaggtaaaa	tatatccgaa	ttttacagag	ggaaaaccaa	ggcacagaga	ggctaagtag	5100
cttgaccagg	atcacacagc	taataatcac	tgacatagct	gggatttaaa	cataagcagt	5160
tacctccata	gatcacacta	tgaccaccat	gccactgttc	cttctcaaga	gttccaggat	5220
cctgtctgtc	cagttctctt	taaagaggac	aacacatctg	acattgctac	cttgaggtaa	5280
catttgaaat	agtgggtaga	catatgtttt	aagttttatt	cttacttttt	atgtgtgtgt	5340
gtttgggggg	ccaccacagt	gtatgggtgg	agataagggg	acaacttaag	aattggctct	5400
ttctccacc	acatgggtgc	tgagggtctga	actcagggtca	tcaggattgg	cacaaatccc	5460
tttaccact	gagccatttc	actggtccaa	tatatgtgtg	cttttaagag	gctttaacta	5520
ttttcccaga	tgtgaatgtc	ctgctgatca	ttatcccttt	ttaccggaa	gccctctggg	5580
aggtgccatc	cctgtggtcg	tctgcataca	aatggggaaa	ctgcaactca	gagaaacaag	5640
gctacttgcc	agggccccc	aagtaagata	ggctgggatg	ccatcccaga	ctggccacac	5700
tccctggcct	gtgcttcaag	ccagtttact	ttgttccctg	ccattggaag	ttagcatgtt	5760
gcagtcaaac	acaataacta	caggccaaaa	gtgcttttaa	attaaagtca	gatgaacttt	5820
taaacatcca	gagctcctca	actgcaggag	ttacaacctg	attctgcaac	catctttgca	5880
gtgcccggta	gtcatatgta	gctagaggct	cttggctagg	acagcatgtg	ttaggaaaca	5940
tctggccctg	agatcattga	attgagtgac	tgctgggtga	caaagaccaa	ggcatccgtt	6000
ccctgagagt	cctgggcaag	cagcaatgtg	accttcattt	gtacctactc	aggttcttta	6060
tctgtcctgt	ttgacctact	tagtctcttc	tggtgtctca	gaggcccagg	ctgggtactc	6120
tggatgtcag	gatcaggcca	atgcgcacat	ctgccctaga	aatgtccccc	tggttgagca	6180
gctcctgaat	ccatcggtaa	aggggtctga	ccaggagga	gtcagataaa	aagctgacag	6240
cactggggga	ctccatgggg	aactcccacc	tgccccaca	catccatcct	aagagaactg	6300
gtattccttg	tttccctttt	gtcctacaag	gcaccctggg	atcccacttc	agtctcccag	6360
ccttgccagg	gtagaggggc	atgagcctcc	ttgtggggaa	tttagatgca	agaaggta	6420
gtcactagag	aacctgagct	cagatcccca	aagtaaccag	tacctgatag	tgaggcagct	6480
gagaaccgca	gcagcctgcc	tgagtggctg	aactctgcgg	cctccggaac	tggccccaac	6540
tgttgggtct	cctcttctct	cctcctgtga	gggaggggcc	atctctgata	agtgtgtgtg	6600
ggactctaga	gtagggagga	ggaggagcaa	tctaagcagg	ccttactgag	aagtccttgc	6660
tggcatgtgg	ctgcctgagg	agtacagact	gggaacaccc	atttgaatga	gtaaggtttt	6720
tcctgaaggc	catggggagc	cacggaggaa	aatcatttta	gttacaagac	aaagagtaga	6780
ttggttaaca	tgggagcaag	gacatggccc	caattttcat	agatgaagga	aattggaact	6840
cagagagggt	aagtaacttc	tcccaaata	ctcagcttca	aaatcacaga	acagtacag	6900
tctagatctc	tctgatgcct	gtgatggctc	tgccattcca	tggtgtgat	ccctgtggca	6960
tcagtaagcc	tctaccttgt	gggaatgcag	gatctaaatg	aagagaggaa	gtgctggccc	7020
catgctgtgg	tctggaaagc	tatgcaggct	ctttgagcag	agagtgaccc	acaagtgaat	7080
agagtcctat	gagactcaaa	gcaacatcca	cccttaagca	gctctaacca	aatgtcaca	7140
ctgagggagc	caaagccaag	ttagagtcct	gtgcttgccc	aaggtcactt	tgccctggcc	7200
tcctcctata	gcaccctgtg	tatcttatag	ccctcattac	agtgattaca	attataatta	7260
gagaggtaac	agggccacac	tgtccttaca	cattcccctg	ctagattgta	gctgggagag	7320
ggggagatgt	aggtggctgg	gggagtggga	gggaagatgc	agattttcat	tctgggctct	7380
actccctcag	ccattttttg	gtgtgggagt	tagacttttg	atatgttgat	gatgaggtaa	7440
gggccacaga	acagtctgaa	ctgtggtatc	agaatcctgt	ccctctccct	ctctcctcat	7500
ccctcttcac	cttgteactc	ctctgtctgc	tacagggtgg	ttctggctgg	gtatagacca	7560
agagggagct	gagggcaccc	tgtccctcat	aggcaccatc	ttcggggtgc	tggccagcct	7620
ctgcgtctcc	ctcaatgcca	tctataccaa	gaaggtgtct	ccagcagtg	acaacagcat	7680
ctggcgccta	accttctata	acaatgtcaa	tgcctgtgtg	ctcttcttgc	ccctgatgg	7740
tctgtctggg	gagctccgtg	ccctccttga	ctttgtcat	ctgtacagtg	cccacttctg	7800
gctcatgatg	acgctgggtg	gcctcttcgg	ctttgccatt	ggctatgtga	caggactgca	7860
gatcaaattc	accagtcccc	tgaccacaaa	tgtatcaggc	acagccaagg	cctgtgcgca	7920
gacagtgtct	gccgtgtctt	actatgaaga	gactaagagc	ttcctgtgg	ggacaagcaa	7980

cctgatggtg	ctgggtggct	cctcagccta	tacctgggtc	aggggctggg	agatgcagaa	8040
gacccaagag	gaccccagct	ccaaagaggg	tgagaagagt	gctattgggg	tgtgagcttc	8100
ttcagggacc	tgggactgaa	cccaagtggg	gcctacacag	cactgaaggc	ttcccatgga	8160
gctagccagt	gtggccctga	gcaatactgt	ttacatcctc	cttggaatat	gatctaagag	8220
gagccagggg	ctttcctggt	aatgtcagaa	agctgccaaa	tctcctgtct	gccccatctt	8280
gttttgggaa	aaccctacca	ggaatggcac	ccctacctgc	ctcctcctag	agcctgtcta	8340
cctccatata	atctctgggg	ttgggaccag	ctgcagcctt	aaggggctgg	attgatgaag	8400
tgatgtcttc	tacacaaggg	agatgggttg	tgatcccact	aattgaaggg	atttgggtga	8460
ccccacacct	ctgggatcca	gggcaggtag	agtagtagct	taggtgctat	taacatcagg	8520
aacacctcag	cctgcctttg	aagggaagtg	ggagcttggc	caaggaggga	aatggccatt	8580
ctgccctctt	cagtgtggat	gagtatggca	gacctgttca	tggcagctgc	accctggggg	8640
ggctgataag	aaaacattca	cctctgcatt	tcataatttg	agctctagaa	cgggggagag	8700
ccacacatct	tttacgggtt	aagtaggggtg	atgagctcct	ccgcagctcc	taaccccagc	8760
tttacctgcc	tggcttccct	tggcccagct	acctagctgt	actccctttc	tgtactcttc	8820
tcttctccgt	catggcctcc	cccaacacct	ccatctgcag	gcagggaagt	gagtccactt	8880
gtaacctctg	ttcccatgac	agagcccttt	gaataacctg	acccctcatg	acagtaagag	8940
acatttatgt	tctctggggc	tggggctgaa	ggagcccact	ggttctcact	tagcctatct	9000
ggctcctgtc	acaaaaaaaa	aaaaagaaaa	aaaaaaagca	taaaccaagt	tactaagaac	9060
agaagttggt	ttataacgtt	ctggggcagc	aaagcccaga	tgaagggacc	catcgacctt	9120
ctctgtccat	atcctcatgc	tgcagaagta	caggcaagct	cctttaagcc	tcatatagga	9180
acactagcct	cactcatgag	ggttttactc	catgacctgt	caacctcaaa	gccttcaaca	9240
tgaggactcc	aacgtaaatt	tggggacaga	agcactcaga	ccatacccca	gcaccacacc	9300
ctcctaacct	cagggtagct	gtcattctcc	tagtctcctc	tcttgggcct	ttagaacccc	9360
catttccttg	gggtaattgt	tgatgttttt	gtccctgtca	taaaaagatg	gagagactgt	9420
gtccagcctt	tgattcctac	ttcctacaat	cccaggttct	aatgaagttt	gtggggcctg	9480
atgccctgag	ttgtatgtga	tttaataata	aaaaagcaag	atacagcatg	tgtgtggact	9540
gagtgaaggc	cacagggatc	taaaagccaa	gtgtgagggg	acccagctac	agcaggcagc	9600
atcctgagcc	tggaatctct	tcaggacaag	aattctccat	atacctacct	actctgggga	9660
gtagggtggc	agagttcaag	cttcccttag	taccaactac	cactggctgt	gctcttactg	9720
aaggcagaca	tggcactgag	tgctgtccat	ctgtcactca	tctccacagc	cattcctaata	9780
gtgtgggggtg	ggagccatca	ccaaacccca	ttttcagata	aggacacagg	ctcagagagg	9840
cttgtgtgga	gaaaagtagc	agcagaattc	agagagctgg	gtctcctgca	gcaccttgga	9900
ctgccagcag	ccacagtgtc	tgtcacacag	cacatactca	aaagaatgcc	agccccctca	9960
gcctagagt	cctggccttt	ctttcagatg	aggaagaggg	tcaaagctgt	tagcttgccc	10020
accatatgac	cacatacatg	accaacagct	tgagggaggg	aggattactg	tggctcccag	10080
cctgagaggt	gggacaccca	aatgtattag	gtccttgaat	cagggctgac	cttgtgattc	10140
agtcactcct	accagaatgc	tggggaatgg	ggatgccaaa	ggcaaaggag	gcttttctaag	10200
gtgtgggtgta	agataggcat	ttctgcttcc	atgtacacct	gtgagcagag	taggaaggcc	10260
ctgtggagaa	tatatcccac	aaaccagtag	cccttcctgg	cagtgggtga	atactgccac	10320
cctatacccc	tatgcaaggc	cagtagaacc	acccaaccca	caacatctag	agaaattaca	10380
ggcatcttta	agcctctaaa	ttgtggagaa	actcgacatg	cgcacgattc	ctaacctgct	10440
agcctagggt	gcgggggtgga	taattttaagg	aaactggggg	ttcttataga	atcggaggct	10500
ccatgaagtc	accctgacaa	gaggtcagca	atagccagca	gcagtggcta	ctcctaagcc	10560
tccagacaga	gcaccctgtg	aatgtacctt	attctcacat	ctgggtgtct	ataggtgtga	10620
ctgggtcaga	tgtcaccacg	gccattgcaa	tgggccctta	gccccatggg	gtgttgggat	10680
agcagccaag	cagctcccat	gctgagatac	tgcctgcagt	agactgatgg	ataagaaaac	10740
aaggcccaaa	atgttttctt	tccagacttg	atctttcttt	gttcaaaaat	gctgttttcc	10800
cttaaaacttg	cccaaaccac	ttgttttgca	gttgaggaaa	ataaggcata	gaaagattaa	10860
aggaagtttc	tgaggttaca	gagcaaaagta	ctggccttcac	ctgaaataga	caggtgtgcc	10920
ctgatcctga	tttgagctc					10939

<210> 2

<211> 352

<212> PRT

<213> *Cricetulus griseus*

<400> 2

Met Ala Leu Thr Gly Gly Ser Thr Ala Ser Glu Glu Ala Asp Glu Asp
1 5 10 15

Ser Arg Asn Lys Pro Phe Leu Leu Arg Ala Leu Gln Ile Ala Leu Val
20 25 30

Val Ser Leu Tyr Trp Val Thr Ser Ile Ser Met Val Phe Leu Asn Lys
35 40 45

Tyr Leu Leu Asp Ser Pro Ser Leu Gln Leu Asp Thr Pro Ile Phe Val
50 55 60

Thr Phe Tyr Gln Cys Leu Val Thr Ser Leu Leu Cys Lys Gly Leu Ser
65 70 75 80

Thr Leu Ala Thr Cys Cys Pro Gly Thr Val Asp Phe Pro Thr Leu Asn
85 90 95

Leu Asp Leu Lys Val Ala Arg Ser Val Leu Pro Leu Ser Val Val Phe
100 105 110

Ile Gly Met Ile Ser Phe Asn Asn Leu Cys Leu Lys Tyr Val Gly Val
115 120 125

Ala Phe Tyr Asn Val Gly Arg Ser Leu Thr Thr Val Phe Asn Val Leu
130 135 140

Leu Ser Tyr Leu Leu Leu Lys Gln Thr Thr Ser Phe Tyr Ala Leu Leu
145 150 155 160

Thr Cys Gly Ile Ile Ile Gly Gly Phe Trp Leu Gly Ile Asp Gln Glu
165 170 175

Gly Ala Glu Gly Thr Leu Ser Leu Ile Gly Thr Ile Phe Gly Val Leu
180 185 190

Ala Ser Leu Cys Val Ser Leu Asn Ala Ile Tyr Thr Lys Lys Val Leu
195 200 205

Pro Ala Val Asp Asn Ser Ile Trp Arg Leu Thr Phe Tyr Asn Asn Val
210 215 220

Asn Ala Cys Val Leu Phe Leu Pro Leu Met Val Leu Leu Gly Glu Leu
225 230 235 240

Arg Ala Leu Leu Asp Phe Ala His Leu Tyr Ser Ala His Phe Trp Leu
245 250 255

Met Met Thr Leu Gly Gly Leu Phe Gly Phe Ala Ile Gly Tyr Val Thr
260 265 270

Gly Leu Gln Ile Lys Phe Thr Ser Pro Leu Thr His Asn Val Ser Gly
275 280 285

Thr Ala Lys Ala Cys Ala Gln Thr Val Leu Ala Val Leu Tyr Tyr Glu
290 295 300

Glu Thr Lys Ser Phe Leu Trp Trp Thr Ser Asn Leu Met Val Leu Gly
 305 310 315 320

Gly Ser Ser Ala Tyr Thr Trp Val Arg Gly Trp Glu Met Gln Lys Thr
 325 330 335

Gln Glu Asp Pro Ser Ser Lys Glu Gly Glu Lys Ser Ala Ile Gly Val
 340 345 350

<210> 3
 <211> 22
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Synthetic RNA

<400> 3
 uaaccucugc cucaaguaca gc 22

<210> 4
 <211> 19
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Synthetic RNA

<400> 4
 guacuugagg cagagguua 19

<210> 5
 <211> 33
 <212> DNA
 <213> Artificial Sequence.

<220>
 <223> Description of Artificial Sequence:Primer

<400> 5
 atgcatgccca ccatgaaaaa gcctgaactc acc 33

<210> 6
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Primer

<400> 6
 ggatcccagg ctttacactt tatgcttc 28

<210> 7
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Primer

<400> 7
ggaatgcagc ttcctcaagg gactcgc 27

<210> 8
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Primer

<400> 8
gcactcgtcc gagggcaaag gaatagc 27

<210> 9
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Primer

<400> 9
tgtgctggga attgaaccca ggac 24

<210> 10
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Primer

<400> 10
ctacttgtct gtgctttctt cc 22

<210> 11
<211> 1095
<212> DNA
<213> Homo sapiens

<400> 11
atgaataggg cccctctgaa gcggtccagg atcctgcaca tggcgctgac cggggcctca 60
gacccctctg cagaggcaga ggccaacggg gagaagccct ttctgctgcg ggcattgcag 120
atcgcgctgg tgggtctccct ctactgggtc acctccatct ccatgggtgtt ccttaataag 180
tacctgctgg acagcccctc cctgcggtg gacaccccca tcttcgtcac cttctaccag 240
tgccctggtga ccacgctgct gtgcaaaggc ctcagcgctc tggcgcgctg ctgccctggt 300
gccgtggact tccccagctt gcgcctggac ctcagggtgg cccgcagcgt cctgccctg 360

tcggtggtct	tcacggcat	gatcaccttc	aataacctct	gcctcaagta	cgctgggtgtg	420
gccttctaca	atgtgggco	ctcactcacc	accgtcttca	acgtgctgct	ctcctacctg	480
ctgctcaagc	agaccacctc	cttctatgcc	ctgctcacct	gcggtatcat	catcgggggc	540
ttctggcttg	gtgtggacca	ggagggggca	gaaggcaccc	tgtcgtggct	gggcaccgtc	600
ttcggcgtgc	tggctagcct	ctgtgtctcg	ctcaacgcc	tctacaccac	gaagggtgctc	660
ccggcggtgg	acggcagcat	ctggcgccctg	actttctaca	acaacgtcaa	cgccctgcatc	720
ctcttcctgc	ccctgctcct	gctgctcggg	gagcttcagg	ccctgctgga	ctttgcccag	780
ctgggcagtg	cccacttctg	ggggatgatg	acgctgggcg	gcctgtttgg	ctttgccatc	840
ggctacgtga	caggactgca	gatcaagttc	accagtcgcg	tgacccacaa	tgtgtcgggc	900
acggccaagg	cctgtgcccc	gacagtgtctg	gccgtgctct	actacgagga	gaccaagagc	960
ttcctctggt	ggacgagcaa	catgatggtg	ctgggcggct	cctccgccta	cacctgggtc	1020
aggggctggg	agatgaagaa	gactccggag	gagcccagcc	ccaaagacag	cgagaagagc	1080
gccatggggg	tgtga					1095

<210> 12
 <211> 1053
 <212> DNA
 <213> Mus musculus

<400> 12						
atggcgctga	ctggagtctc	tgctgtctcc	gaggagtcag	agagcgggaa	caagccattt	60
ctgctccggg	ctctgcagat	cgcgctgggtg	gtctctctct	actgggtcac	ctccatttcc	120
atggtattcc	tcaacaagta	cctgctggac	agcccctccc	tgcagctgga	tacccccatt	180
tttgtcacct	tctaccaatg	cctggtgacc	tcaactgctgt	gcaagggcct	cagcactctg	240
gccacctgct	gccccggcat	ggtagacttc	cccaccctaa	acctggacct	caagggtggc	300
cgaagtgtgc	tgccgctgtc	agtggctctt	atcggcatga	taaccttcaa	taacctctgc	360
ctcaagtacg	taggggtgcc	cttctacaac	gtgggacgct	cgctcaccac	cggtgttcaac	420
gttcttctct	cctacctgct	gctcaaacag	accacttcct	tctatgccct	gctcacctgc	480
ggcgtcatca	ttggtgggtt	ctggctgggt	atagaccaag	aaggagctga	gggaaccttg	540
tccctgacgg	gcacctctt	cggggtgctg	gccagcctct	gcgtctccct	caatgccatc	600
tataccaaga	aggtgctccc	tgcagtagac	cacagtatct	ggcgccctaac	cttctataac	660
aatgtcaatg	cctgcgtgct	cttcttgccc	ctgatgatag	tgtctggcga	gctccgtgcc	720
ctcctggcct	tcactcatct	gagcagtgcc	cacttctggc	tcatgatgac	gctgggtggc	780
ctgtttggct	ttgccatcgg	ctatgtgaca	ggactgcaga	tcaaattcac	cagtcccctg	840
accataacg	tgtcaggcac	ggccaaggcc	tgtgcacaga	cagtgtctggc	cggtgctctac	900
tacgaagaga	ttaagagctt	cctgtggtgg	acaagcaacc	tgatggtgct	gggtggctcc	960
tccgcctaca	cctgggtcag	gggctgggag	atgcagaaga	cccaggagga	ccccagctcc	1020
aaagatggtg	agaagagtgc	tatcagggtg	tga			1053

<210> 13
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer

<400> 13			
tgcagatcgc	gctgggtggtc	tc	22

<210> 14
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 14

gccccctgacc caggtgtagg c

21

<210> 15

<211> 2424

<212> DNA

<213> *Cricetulus griseus*

<400> 15

```
gattcggcac gaggcgctcc gcttcccacg cgggtcccga cctgttcttt cctcctccac 60
cctgcccttc tgtccctctc ccttcccttc tcccctcgac tcgtccctat taggcaacag 120
cccctgtggt ccagccggcc atggctgtca aggcacacac ccttagctag gcccttctc 180
ccttccctgg gtcttgtctc atgaccccct gccccgcccg ggagcgagcg cgatgtggag 240
cagtgcctct ggcaagcaga acttcaccca agccatgtga caattgaagg ctgtaccccc 300
cagaccctaa catcttggag ccctgtagac cagggagtg cttctggccgt ggggtgacct 360
agctcttcta ccaccatgaa cagggccct ctgaagcggg ccaggatcct gcgcatggcg 420
ctgactggag gctccactgc ctctgaggag gcagatgaag acagcaggaa caagccgttt 480
ctgctgcggg cgctgcagat cgcgctggc gtctctctct actgggtcac ctccatctcc 540
atggtattcc tcaacaagta cctgctggac agcccctccc tgcagctgga taccctatc 600
ttcgtcactt tctaccaatg cctggtgacc tctctgtgt gcaagggcct cagcactctg 660
gccacctgct gccctggcac cgttgacttc cccacctga acctggacct taagggtggc 720
cgcagctgct tggcactgtc ggtagtcttc attggcatga taagtttcaa taacctctgc 780
ctcaagtacg taggggtggc cttctacaac gtggggcgct cgctcaccac cgtgttcaat 840
gtgcttctgt cctacctgct gctcaaacag accacttct tctatgccct gctcacatgt 900
ggcatcatca ttggtggttt ctggctgggt atagaccaag agggagctga gggcaccctg 960
tccctcatag gcaccatctt cggggtgctg gccagcctct gcgtctccct caatgccatc 1020
tataccaaga aggtgctccc agcagtggac aacagcatct ggcgctaac cttctataac 1080
aatgtcaatg cctgtgtgct cttcttggcc ctgatgggtc tgctgggtga gctccgtgcc 1140
ctccttgact ttgctcatct gtacagtgcc cacttctggc tcatgatgac gctgggtggc 1200
ctcttcggct ttgccattgg ctatgtgaca ggactgcaga tcaaattcac cagtcccctg 1260
accacaatg tatcaggcac agccaaggcc tgtgcgcaga cagtgcctggc cgtgctctac 1320
tatgaagaga ctaagagctt cctgtggtgg acaagcaacc tgatggtgct ggggtggctc 1380
tcagcctata cctgggtcag gggctgggag atgcagaaga cccaagagga cccagctcc 1440
aaagaggggtg agaagagtgc tattgggggtg tgagcttctt cagggaacctg ggactgaacc 1500
caagtggggc ctacacagca ctgaaggctt cccatggagc tagccagtgt ggccctgagc 1560
aatactgttt acatcctcct tggaaatatga tctaagagga gccagggtct ttcctggtaa 1620
tgtcagaaaag ctgccaaatc tcctgtctgc cccatcttgt tttgggaaaa ccctaccagg 1680
aatggcaccct ctacctgcct cctcctagag cctgtctacc tccatatcat ctctggggtt 1740
gggaccagct gcagccttaa ggggctggat tgatgaagtg atgtcttcta cacaagggag 1800
atgggttgtg atcccactaa ttgaagggtt ttgggtgacc ccacacctct gggatccagg 1860
gcaggtagag tagtagctta ggtgctatta acatcaggaa cacctcagcc tgcctttgaa 1920
gggaagtggg agcttggcca agggaggaaa tggccattct gccctcttca gtgtggatga 1980
gtatggcaga cctgttcatg gcagctgcac cctgggggtg ctgataagaa aacattcacc 2040
tctgcatttc atatttgag ctctagaacg ggggagagcc acacatcttt tacgggttaa 2100
gtagggtgat gagtccctcc gcagtcccta accccagttt tacctgcctg gcttcccttg 2160
gcccagctac ctagtgttac tcccttctg tactcttctc ttctccgtca tggcctcccc 2220
caacacctcc atctgcaggc aggaagtgga gtccacttgt aacctctgtt cccatgacag 2280
agccctttga atacctgaac ccctcatgac agtaagagac atttatgttc tctggggctg 2340
gggctgaagg agcccactgg ttctcactta gcctatctgg ctctgtcac aaaaaaaaaa 2400
aaaaaaaaaa aaaaaaaact cgag 2424
```

<210> 16
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 16
tgcagatcgc gctggtggtc tc 22

<210> 17
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 17
gctccttctt ggtctatacc 20

<210> 18
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 18
agaccacttc cttctatgcc 20

<210> 19
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 19
gccctgacc caggtgtagg c 21